

## NISTTech

### FLAME RETARDING COATINGS

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**Docket No. 13-014**

#### **Abstract**

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Dopamine is a natural, biological compound found in the bodies of animals as neurotransmitters. Melamine is a commonly used flame retardant for cellulose and polymers that can be derived from the naturally occurring compound, urea. We have used aqueous solutions of these compounds to saturate polyurethane foams, soak cellulose fibers or crystals, and coat clay particles. Once exposed to an oxidizing solution, these compounds polymerize to form a cross-linked structure that protects the underlying materials from heat. Exposure to flame or high heat is inhibited, with some formulations becoming self-extinguishing and others exhibiting a heat resistant char.

#### **Inventors**

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#### **Status of Availability**

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